Collaborative Stage Version 2: What's New

Education and Training Team
Collaborative Stage Data Collection System
Version 2

Learning Objectives

- **Identify changes and updates in CS version 2**
- **Understand rationale behind changes**
- **Understand relationships among**
  - **AJCC TNM 7th edition**
  - **CSv2**
  - **Treatment timing**
  - **Clinical information**
  - **Pathologic information**
  - **CAP Protocols**
- **Understand how and why site-specific factors are used**

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What's New in Version 2

	Version 1 (6th Ed)	Version 2 (7th Ed)
Team members	**6**	**Nearly 60**
Work Teams	**1**	**7 with sub-groups**
Schemas	**94**	**143**
Tables (estimated)	**1,900**	**5,500**
CS data fields	**15**	**34**
Field length*	**2**	**3**

* CS Extension and CS Lymph Nodes

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CSv2 Work Teams

- CSv2 Project Management Team
- CSv2 Mapping Team
- CSv2 Informatics Team
  - Experts identified by stakeholder organizations/software vendors
- CSv2 Work Group
- CSv2 Education and Training Team
- CSv2 New Data Items Team
- CSv2 Field Study Team
- Project manager

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Mapping Team Activities

- Reviewed TNM7 chapters prior to publication
  - Opportunity to catch inconsistencies
  - Opportunity to ask for clarifications
  - Opportunity for registrar feedback on chapter content
- Compared TNM 7 to CS version 1
  - Added, revised, deleted
  - Added/revised notes
  - Remapped
- Add site-specific factors
- Proofread, proofread, proofread!

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CSv2 Changes

- New name
  - Collaborative Stage Data Collection System (CS)
- Based on AJCC Cancer Staging Manual, seventh edition
- Commitment to make staging more clinically relevant
  - Better definitions and instructions
  - More site-specific factors
- Compatible with 2010 CAP Protocols

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Other Features of CSv2

- **Histology inclusions rather than exclusions**
  - **Code ranges rather than specific terms**
- **Consistency of code structures from site to site**
- **More non-specific terms, "Stated as T_, NOS"**
- **More non-anatomic factors**
  - **Treatment decisions, prognostic/predictive data**
- **Data items more complete for lab values**
  - **Colon, rectum, appendix: CEA and CEA Lab Value**

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New Schemas

- **Mucosal melanoma of head and neck (26)**
- **Esophagus-GE Junction**
- **Appendix**
- **Gastrointestinal stromal tumor (7)**
- **Neuroendocrine tumor (neuroendocrine/carcinoid) (4)**
- **Intrahepatic bile ducts**
- **Perihilar bile ducts**
- **Distal bile duct**
- **Other biliary**
- **Merkel cell carcinoma**
- **Ocular adnexal lymphoma**
- **Adrenal gland**

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Modifications to Schemas

- **Non-melanoma skin is primarily squamous CA**
- **Lung**
  - **Pleural effusion moved to Mets at Dx**
  - **Separate tumor nodules moved to Extension**
- **Extracapsular extension for head and neck sites**
  - **Split into clinical and pathologic**

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New CSv2 Data Fields

- New fields in NAACCR record version 12
  - Site-specific factors 7-25 (#2861-2879)
  - Pre- and Post-Treatment (11 fields; #2730-2785)
  - 7th Edition derived fields
- Grade Path Value (#449)
- Grade Path System (#441)
- Lymph-Vascular Invasion (#1182)
- Specific fields for metastatic sites (#2851-2854)
  - Mets at Dx-Bone, -Brain, -Liver, -Lung

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Mets at Dx-Metastatic Sites

- 4 new fields
  - Bone excluding marrow
  - Lung excluding pleura and pleural fluid
  - Brain excluding spinal cord and other CNS
  - Liver
- Code 0 when CS Mets at Dx is 00
- Code structure
  - 0 – No
  - 1 – Yes
  - 8 – Not applicable
  - 9 – Unknown

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Lymph-Vascular Invasion (1)

- Coding instructions
  - Based on all pathology reports or information available
    - Priority given to positive results
  - Includes lymphatic invasion, vascular invasion, or lymph-vascular invasion
  - Do not use for perineural invasion
  - Use CAP checklist as primary source
    - Other sources may be used in the absence of a checklist

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Lymph-Vascular Invasion (2)

- **Code structure**
  - **0 – Lymph-vascular invasion not present (absent)/ Not identified**
  - **1 – Lymph-vascular invasion present/identified**
  - **8 – Not applicable**
  - **9 – Unknown/Indeterminate**

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Grade Path Value (1)

- **Does not replace Grade/Differentiation (#440)**
- **Record grade specified in Grade Path System**
- **Code structure**
  - **1 Recorded as Grade I or 1**
  - **2 Recorded as Grade II or 2**
  - **3 Recorded as Grade III or 3**
  - **4 Recorded as Grade IV or 4**
  - **Blank No 2-, 3-, or 4-grade system available; unknown**

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Grade Path Value (2)

- **Coding instructions**
  - **Record grade reported in patient record**
  - **Based on same tissue as Grade/Differentiation field**
  - **Do not use for site-specific grading systems**
    - **Part of the SSF fields**
  - **If grade is described as a fraction (x/y)**
    - **This data field is the numerator**
  - **Histologic grade is another name for overall grade or grade NOS**
    - **Takes priority over a nuclear or architectural grade**

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Grade Path System (1)

- New item
  - In addition to Grade Differentiation (#440)
- Record stated grade system; not converted
- Used in conjunction with "Grade Path Value"
- Code Structure
  - 2 Two-grade system
  - 3 Three-grade system
  - 4 Four-grade system

  Blank Not a 2-, 3- or 4-grade system; unknown

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Grade Path System (2)

- Coding instructions
  - Record the grading system in the record
  - Based on same tissue as Grade/Differentiation field
  - Do not use for site-specific grading systems
    - Part of the SSF fields
  - If grade is described as a fraction (x/y)
    - This data field is the denominator

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CSv2 Field Changes

- CS Extension and CS Lymph Nodes expanded
  - Two digits to three digits
- 7th and 6th Edition mapping fields
- Additional Site-specific Factors
  - NAACCR record allows up to 25 SSFs
- Pre- and post-adjuvant therapy staging data fields
- CS "mixed stage" (combined clinical-pathologic) continues

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Example CS Extension Table: Colon

Code		TNM 7th Map	TNM 6th Map	SS77 Map	SS2000 Map
420	Fat, NOS	T3	T3	RE	RE
450	Extension to: All colon sites: Adjacent tissue(s), NOS Connective tissue Mesenteric fat … Ascending and descending colon Retroperitoneal fat Transverse colon/flexures Gastrocolic ligament Greater omentum	T3	T3	RE	RE
460	Adherent to other organs or structures, but no microscopic tumor found in adhesion(s)	T3	T3	RE	RE
490	Stated as T4, NOS	T4NOS	T4	RE	RE
500	Invasion of/through serosa (mesothelium) (visceral peritoneum) Stated as T4a, NOS	T4a	T4	RE	RE
550	Any of [(420) to (450)] + (500)	T4a	T4	RE	RE
570	Adherent to other organs or structures, NOS	T4b	T4	RE	RE

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CSv2 Coding Issues

- **Topography codes split into different schemas**
  - **Esophagus schema now includes**
    - **Gastroesophageal junction (C16.0)**
    - **Stomach fundus (C16.1)**
    - **Part of stomach body (C16.2)**
  - **Extrahepatic bile ducts (C24.0) split into**
    - **Perihilar (proximal)**
    - **Distal bile duct**
    - **Gallbladder schemas**

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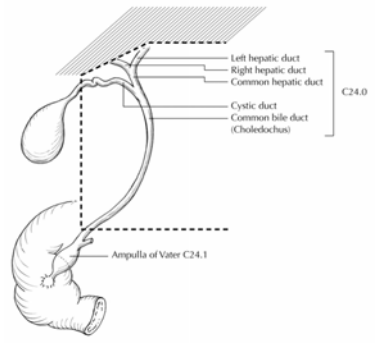
C24.0 Extrahepatic Bile Ducts



Extrahepatic Bile Ducts. In: Greene, F.L., Compton, C.C., Fritz, A.G., et al., editors. AJCC Cancer Staging Atlas. New York: Springer, 2006: 139-145. ©American Joint Committee on Cancer. Used with permission of the American Joint Committee on Cancer (AJCC®), Chicago, Illinois.

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C24.0 Extrahepatic Bile Ducts

	Perihilar BD schema	Distal BD schema	Gall-bladder schema
Common bile (choledochal) duct		✓	
Cystic bile duct			✓
Hepatic bile duct – right, left, common	✓		
Klatskin tumor	✓		
Sphincter of Oddi		✓	
Extrahepatic bile duct [NOS]			

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CSv2 Coding Issues, continued

- Schemas for some sites split by morphology
  - Head and neck: mucosal melanomas vs. carcinomas
  - GIST and neuroendocrine tumors of GI tract separate from carcinomas
  - Liver and intrahepatic bile ducts separate
    - Liver (Hepatocellular ca)
    - Intrahepatic BD (Cholangioca)
  - Esophagus: separate stagings for squamous vs. adenocarcinoma

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CSv2 Coding Issues, continued

- TNM 7 includes staging for certain histologies
  - Currently NOT reportable to population-based registries
  - May be reportable-by-agreement
    - High grade dysplasia of esophagus
    - PanIN III of pancreas, severe ductal dysplasia
    - Carcinoid of appendix
    - Squamous carcinoma of skin

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CSv2 Coding Issues, continued

- Some codes made obsolete
- "Flavors" of Obsolete
  - Obsolete Data Retained Version xxxx (vanilla)
  - Obsolete Data Converted Version xxxx (chocolate)
  - Obsolete Data Converted and Retained Version xxxx (rocky road)
  - Obsolete Data Reviewed and Changed Version xxxx (hazelnut)

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Site-Specific Factors (1)

- New SSFs
  - Based on AJCC 7th edition
  - Some needed for TNM mapping
    - Number of positive axillary nodes, extracapsular extension; thickness of melanoma
  - Some tumor markers and lab values
    - CA 125, CA 19-9, AFP, HCG, KRAS, Ki-67
  - Some prognostic/predictive
    - Gleason tertiary pattern; IPI, FLIPI, IPS (lymphomas)
  - Some for future research/special interest
    - Microsatellite instability (GI cancers), tumor infiltrating lymphocytes (TILs; Merkel cell)
  - Some for patient history of other diseases
    - Sjogren's syndrome (ocular lymphoma), history of asbestos exposure (pleural mesothelioma), retinoblastoma gene mutation

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Site-Specific Factors (2)

- 25 total SSFs available
  - Breast – 24
  - Eyelid, lacrimal gland – 15 to 16
  - Prostate – 15
  - Ocular lymphoma – 12
  - Head & Neck sites (carcinoma & melanoma) – 9 to 11
  - Colon and Rectum – 10
  - CNS – 9
- Standards setters decide which SSFs are required

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Site-Specific Factors (3)

- If information regarding SSF is not in path report or medical record
- Registrar is not required to go looking for it
  - Information may not be available in some facilities
  - Not registrar's role to enforce practice standards
  - Instructions included in schemas on how to code missing information

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Examples of New SSFs (1)

- Microsatellite instability (MSI)
  - Colon, rectum and appendix schemas
  - Pathologic test
    - Determines likelihood of a specific gene mutation for hereditary non-polyposis colorectal cancer (HNPCC)/Lynch syndrome
  - Code structure
    - 000 Stable
    - 010 Unstable – Low
    - 020 Unstable – High [suggestive of HNPCC]
    - 030 Unstable, NOS
    - 998 Test ordered, results not in chart
    - 999 Unknown; Not documented

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Examples of New SSFs (2)

- HPV Status
  - Head & neck sites (melanoma/carcinoma), anus, penis
  - Presence of human papilloma virus (HPV)
    - Known risk factor for cancer
  - Code structure
    - Negative for any HPV
    - Negative for high-risk HPV, type(s) not specified
    - Low risk positive (all positive type(s) are low risk)
    - High risk positive, NOS, type(s) not specified
    - High risk positive, specified type(s) other than types 16 or 18*
    - High risk positive for HPV 16 only*
    - High risk positive for HPV 18 only*
    - High risk positive for HPV 16 and 18*
    - High risk positive for HPV 16 or 18 plus any other high risk type(s)*

* with or without positive results for low risk type(s)

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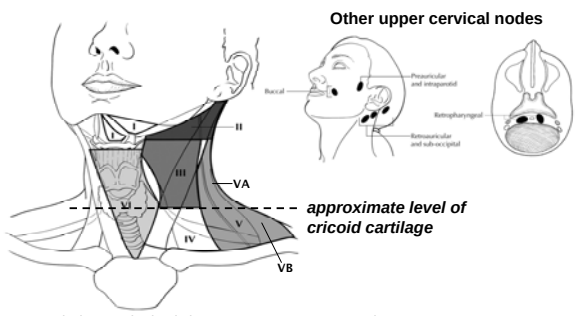
Examples of New SSFs (3)

- **Upper and Lower Cervical Lymph Node Levels**
  - **Head and neck sites**
  - **Defines whether LN are above or below lower border of cricoid cartilage for prognostic purposes**
  - **Code structure**
    - **000** No lymph nodes involved
    - **010** Upper level lymph nodes involved
      Levels I, II, III, VA, "Other groups"
    - **020** Lower level lymph nodes involved
      Levels IV, VB, VII
    - **030** Upper and lower level lymph nodes involved
    - **040** Unknown level lymph nodes involved
      Code "mid neck" and levels V, VI here if not specified as upper or lower
    - **999** Unknown, not stated

Upper and Lower Cervical Lymph Nodes



From: Introduction to Head and Neck Sites. In: Greene, F.L., Compton, C.C., Fritz, A.G., et al., editors. AJCC Cancer Staging Atlas. New York: Springer, 2006: 13-18. ©American Joint Committee on Cancer. Used with permission of the American Joint Committee on Cancer (AJCC®), Chicago, Illinois.

Examples of New SSFs (4)

- **Prostate New SSFs**
  - **Gleason Tertiary Pattern**
  - **Number of Cores Positive**
  - **Number of Cores Examined**
  - **Clinical Staging Procedures Performed**
    - **Digital rectal exam, imaging**
  - **Gleason information from core needle biopsy/TURP**
    - **Primary and secondary pattern**
    - **Score**
  - **Needle core biopsy findings**
  - **Gleason information from prostatectomy/autopsy**
    - **Primary and secondary pattern**
    - **Score**

Examples of New SSFs (5)

- **Breast New SSFs**
  - **SSF 7 – Nottingham or Bloom-Richardson Score/Grade**
  - **SSF 8 – HER2: IHC Test Lab Value**
  - **SSF 9 – HER2: IHC Test Interpretation**
  - **SSF 10 – HER2: FISH Test Lab Value**
  - **SSF 11 – HER2: FISH Test Interpretation**
  - **SSF 12 – HER2: CISH Test Lab Value**
  - **SSF 13 – HER2: CISH Test Interpretation**
  - **SSF 14 – HER2: Result of Other or Unknown Test**
  - **SSF15 – HER2: Summary Result of Testing**

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Examples of New SSFs (6)

- **Breast New SSFs, continued**
  - **SSF 16 – Combinations of ER, PR, and HER2**
  - **SSF 17 – Circulating Tumor Cells & detection method**
  - **SSF 18 – Disseminated Tumor Cells & detection method**
  - **SSF 19 – Assessment of Ipsilat. Level I-II Axillary LN**
  - **SSF 20 – Assessment of Distant Metastases**
  - **SSF 21 – Response to Neoadjuvant Therapy**
  - **SSF 22 – Multi-gene Signature Method**
  - **SSF 23 – Result/Score of Multigene Signature**
  - **SSF 24 – Paget Disease**
  - **SSF25 – 988**

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Pre-Treatment Staging Data Set

- **Equivalent to AJCC clinical stage**
  - **Prior to first definitive treatment (including any neoadjuvant treatment)**
  - **Baseline data for all cases**
  - **Based on diagnostic workup**
    - **Includes any procedure not meeting criteria for pathologic staging**
- **Used with post-treatment staging to monitor response to neoadjuvant treatment**
- **Captured in 7 data fields (no SSFs)**

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Post-Treatment Staging Data Set

- **Equivalent to "y" pathologic staging**
  - **Staging data captured after neoadjuvant treatment**
  - **Used only for cases receiving neoadjuvant treatment followed by surgical resection**
- **Based on pathologic findings after surgical resection**
- **Used with pre-treatment staging**
  - **Monitors response to neoadjuvant treatment**
- **Captured in 4 data fields (no Evals or SSFs)**

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Pre- and Post-Treatment Fields

	Pre	Post
Tumor size	✓	✓
Extension	✓	✓
TS/Ext Eval	✓	
Reg LN	✓	✓
LN Eval	✓	
Mets at Dx	✓	✓
Mets Eval	✓	

Deferred to 2011

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CS Data Collection and Coding Manual

- **Electronic manual**
  - **Designed for desktop use for easy access**
    - **508 compatible for people with disabilities**
  - **Print manual *may* be available**
- **Part I extensively revised and expanded**
  - **Improvements based on suggestions from users and reliability studies**
- **Part I rules cross-referenced in Part II**
  - **Hyperlinks in electronic manual**

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CS Manual Part I

- Coding instructions
  - General
  - Data fields
- More examples with rules
- Site-specific notes section
  - Lymph nodes (head and neck, breast)
  - Other problematic data items
    - Clinical status of regional lymph nodes (stomach, colon)
- Lab values and tumor markers
- Appendices
- Cross-referenced to Part II schemas

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What's NOT New in Version 2

- Code every case — all sites and all histologies
  - Computer algorithm will map to appropriate
    - 6th and 7th edition T, N, M
    - Stage Group 1977 and 2000
- Pay attention to table notes
  - Notes before tables – coding guidelines
  - Notes after tables – mapping guidelines
    - * (asterisk) for 6th Ed notes
    - ^ (carat) for 7th Ed notes

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More Education

- Train the Trainers
  - July 30-31, 2009
  - Webinars for trainers September 15 – December 8
- Fall association workshops
  - Modules with exercises
- NCRA Webinars
  - September 2009 to March 2010
- NAACCR Webinars
- NCRA Conference
  - April 2010, Palm Springs, CA

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Summary

- **CSv2 based on changes in TNM 7th edition**
- **Enhanced clinical and pathologic information**
- **Improved definitions and instructions in manual**
- **Mapping to both 6th and 7th Editions**
- **More site-specific factors**
  - **Markers and lab values**
  - **Prognostic and predictive data**
  - **Fine points of TNM mapping**
  - **If not in chart, don't search for SSFs**

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Inquiry & Response System

- **Submit questions to Inquiry & Response System**
  - **Allows tracking for educational purposes**
  - **Provides information for all**

- **http://web.facs.org/coc/default.htm**

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